User's Manual

DMS-1616 Matrix Switcher
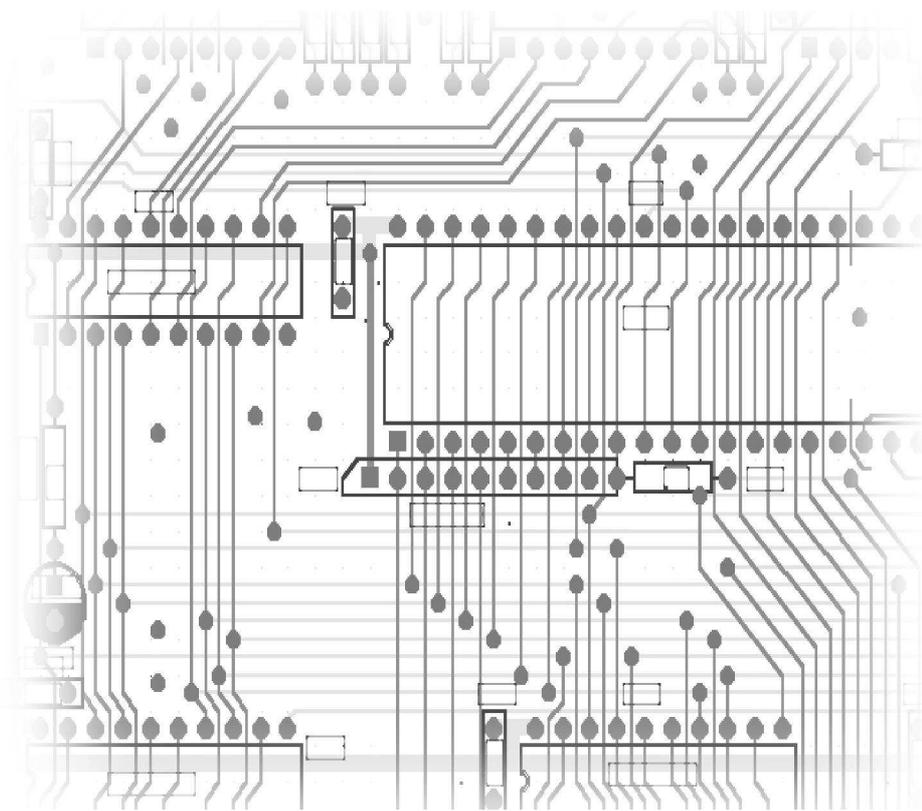
Thanks for your selection of KVMSwitchTech products. For safety consideration, please read the following "Safety Guide" before operating the equipment

The following icons may be used in this manual:

⚠ —— Important information, for example, an action or a step that must be done before proceeding.

📝 —— A Note, a Hint, or a Tip that may be helpful.

📖 —— Indicates word definitions. Additional information may be referenced in another section, or in another document.

DMS-1616 MATRIX SWITCHER
Version 1.0 JAN 2006

Safety Guide

Power Supply ——

This equipment should be operated only from the power source indicated on product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it

Power Disconnection——

To remove all power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug)

Cable——

To prevent the dangerous creepage, do not put articles on the power cable, signal cable or communication cable.

Signal Cable Connection——

To disconnect or connect the signal cable safely, always turn the power off before your operation. It is not guarantied that equipment damages resulted from this reason.

Slots and Opening——

The equipment has slots and hole in the enclosure, these are provided to prevent overheating of sensitive components inside. Other objects must never block these openings.

Working condition ——

Set the unit on a flat, clean surface. Do not expose this equipment to rain or moisture. Dust accumulation can cause problems.

Servicing——

Refer all servicing to qualified service personnel. Do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards

Catalogs

Chapter 1: Introduction

1，Application

It is a really good idea to increase the engineering application system that is whole system adopts digitization. With the developing and popularizing of digital technology, most of the signal processors of middle and high level and display equipment are equipped with the Digital Visual Interface (DVI). This means digitized multi-media application system will be an important development trend in the field of multi-media application.

DVIS-1616 is specially designed for switching sixteen input DVI signals to sixteen output destinations. It is available for many applications that need DVI operation, such as big screen TV, television education, TV and telephone conference, multi-media meeting room and so on.

2，Features

1），Main functions

- Support 16 DVI-D input channel and 16 DVI-D output channels.

- The EDID parameter of the monitor can be preset or default. Power-off status protection.

- Save the last operation parameters when power suddenly shut off.

- Input signal monitor and indication.

- Output load monitor and indication.

- Support RS-232 control.

- Support Network control based on TCP/IP.

- Support WEB control.

- Has a circuit in device to generate signals for testing and debugging systems.

    —— EDID：VESA EXTENDED DISPLAY INDENTIFICATION DATA.

2)、Features

- Input connector: DVI-D
- Output connector: DVI-D
- Network connector: RJ45
- RS-232 connector: DB9 male
- Enclosure dimension: 483mm×133mm×305mm(3U)
- Weight: 6 Kg

3、Performances

- Input resolution: up to 1600×1200×60Hz
- Input signal Timing standard: DVI Version 1.0
- Output signal Timing standard: According to Input Timing Standard
- Pixel clock frequency: 24M Hz — 165M Hz
- Long-distance control: RS232 or TCP/IP-10M
- Power supply: AC 180V~250V 50Hz
- **Max output current of each channel 100mA**
- Power: <40W

Chapter 2: Operations

1、Installations and connections

1)、Installations

a) Fix up the equipment safely before using.

b) Connect the equipment to the external power supply 50 Hz 220 V through the power cable.

c) If there is a need to control by RS-232 Serial Port, please correctly connect RS-232 Serial Port. See "Protocol" at the last part of the "User's Manual"

d) If there is a need to control by Network port, connect the net cable to RJ-45 on rear panel.

⚠ —— This equipment should be used in a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

2)、I/O Connections

Connect DVI output of the computer or other DVI signal source to IN1~IN16 of the equipment connectors. Connect the output connector of the equipment to the DVI input of the monitor or other equipments.

⚠ —— For safety consideration, please cut off the power supply before replacing signal cable.

2、Device operation

1)、Front Panel
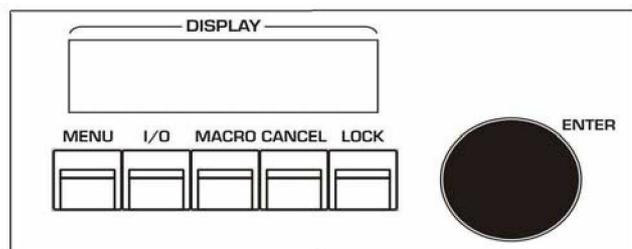
Figure 1: Device front panel

2)、Device Power On

The device has a self-check with a bell warning when power on, and no operation will be responded about 10 seconds during this time.

3)、Lock or Unlock the Panel

If the panel locked, Press the LOCK button will unlock the panel, or if the panel is unlocked, press the LOCK button will lock the panel. The LED displays the panel locked symbol as the following figure 2.
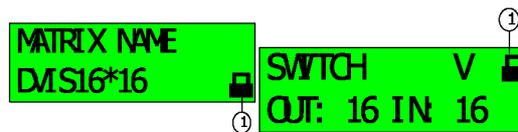
Figure 2: Front panel locked

①：Panel Locked Symbol

4)、Switch Input Channel to Output Channel

If the panel locked, the device will have a bell warning when press the I/O button, or if the panel unlocked, the LED will display the I/O menu as the following figure 3 when press the I/O button.
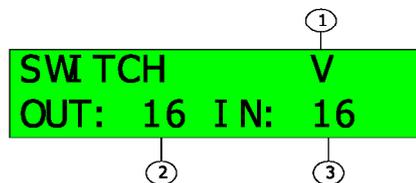
Figure 3: I/O menu

①：The present switch operation is only to Video

②：Output channel number

③：Input channel number

Example 1: To Switch Input Channel 2 to Output Channel 15

a) Unlock the panel if the panel locked (The LED displays as above figure 3).

b) Select operation format: Troll the ENTER button to move the cursor to ①, and press the I/O or ENTER button, then the format symbol blinks. Troll the ENTER button to select the format symbol from "A", "V", and "A/V", and then press the I/O or ENTER button to set the format symbol. The format symbol "A" means the operation is only to Audio, "V" means the operation is only to Video, and "A/V" means the operation is to both Audio

and Video (**This device only has "V" operation format**).

c) Select output channel: Troll the ENTER button to move the cursor to ②, and press the I/O or ENTER button, then the output channel symbol "16" blinks. Troll the ENTER button to set the output channel to be "15", and press the I/O or ENTER button to confirmed the output channel, then the LED displays as the following figure 4.

①
```
SWITCH          V
OUT: 15 IN:  15
```
②   ③
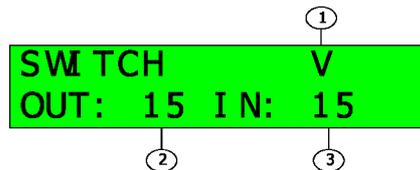
Figure 4: I/O menu

d) Select input channel: Troll the ENTER button to move the cursor to ③and select the input channel in the same way as selecting the output channel. Press the I/O or ENTER button and then finish to switch Input channel 2 to output channel 15,and the LED displays as the following figure 5.

①
```
SWITCH          V
OUT: 15 IN:  2
```
②   ③
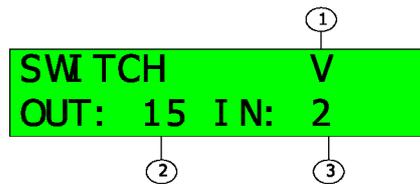
Figure 5: I/O menu

e) IF no other operation on panel, press LOCK button to lock the panel.

Example 2: To OFF output channel 15

a) Unlock the panel if the panel locked (The LED displays as above figure 5).

b) Select operation format (as above way).

c) Select output channel (as above way).

d) Set input channel to be "OFF" in the same way as selecting input channel. Then finish to off output channel 15,and the LED displays as the following figure 6.

①
```
SWITCH          V
OUT: 15 IN:  OFF
```
②   ③
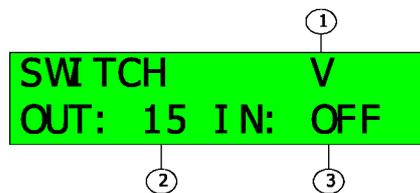
Figure 6: I/O menu

e）IF no other operation on panel, press LOCK button to lock the panel.

5）、Macro Operation

The panel can save only ten macros, and the macros content can only be set through the panel, namely through RS232 communication you can not change the content of the ten macros.

If the panel locked, the device will have a bell warning when press the MACRO button, or if the panel unlocked, the LED will display the MACRO menu as the following figure 7 when press the MACRO button.
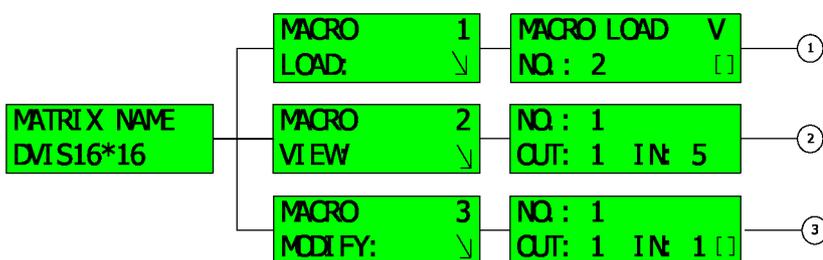

Figure 7: Macro menu

MACRO menu has three submenus.

①：Load macro: Load the macro content to the device.

②：View macro: View the macro content

③：Modify macro: Set the macro content.

Example 3: Load Macro 3

To the following figure, the cursor is at ②.
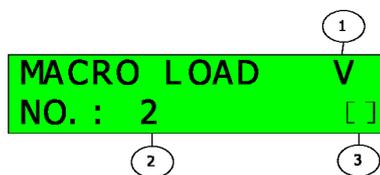
*Figure 8:Load m*acro menu

a）Unlock the panel if the panel locked (The LED displays as above figure 8).

b）Move cursor to ① to select operation format (as above way).

c）Move cursor to ② to select Macro number.

d）Move cursor to ③ to load Macro 3 content to the device, the LED display is as the following figure 9.

```
         ①
┌─────────────────────┐
│MACRO  LOAD     V    │
│NO.:  3        ☑     │
└─────────────────────┘
    ②            ③
```
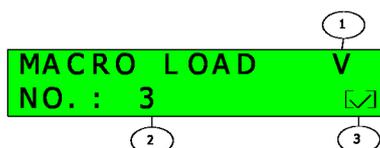
Figure 9:Load macro menu

e) IF no other operation on panel, press LOCK button to lock the panel.

Example 4: View Macro 5

a) To the following figure 10, the cursor is at ②.

```
          ①
┌─────────────────────┐
│NO.:   1             │
│OUT:  1    IN:  5    │
└─────────────────────┘
     ②          ③
```
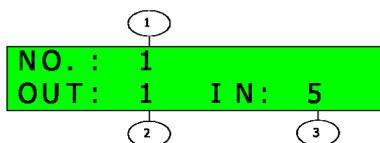
Figure 10:View macro menu

b) Unlock the panel if the panel locked (The LED displays as above figure 10).

c) Select macro number: Move cursor to ① to select the macro number to be viewed through the MACRO and Enter button.

```
          ①
┌─────────────────────┐
│NO.:   5             │
│OUT:  1    IN:  7    │
└─────────────────────┘
     ②          ③
```
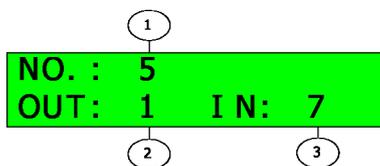
Figure 10:View macro menu

d) View macro content: Move cursor to ②,troll ENTER button to view each output channel, and ③ displays the corresponding input channel, if ③ displays "OFF" means output channel is off, if ③ displays "--" means output channel is ignored.

e) IF no other operation on panel, press LOCK button to lock the panel.

Example 5: Modify Macro 8

To the following figure 11, the cursor is at ②.

```
          ①
┌─────────────────────┐
│NO.:   1             │
│OUT:  1    IN:  1 ⌈ ⌉│
└─────────────────────┘
     ②          ③  ④
```
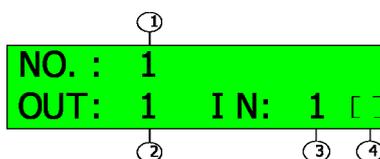
Figure 11:Modify macro menu

If you want to set macro 8 content to be output channel 2 to input channel 12,output channel 5 to input channel 5,output channel 10 to input channel 10, output channel 7 is off, and other output channels are ignored.

a）Unlock the panel if panel locked (The LED displays as above figure 11).

b）Move cursor to ① to select the macro number 8 through MACRO and ENTER button.

c）Move cursor to ② to select output channel 2, Move cursor to ③ to select input channel 12. The same way to set the output channels 5,7,10 as the following figure 12. And other output channels set to be as output channel 16.
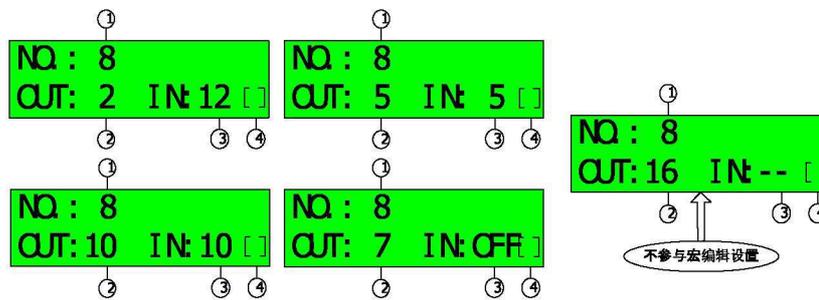
Figure 12:Modify macro menu

d）Finished the setting, Move cursor to ④, and press the MACRO or ENTER button to set the macro content.
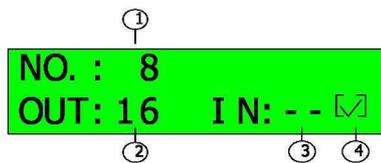
Figure 13:Modify macro menu

e）IF no other operation on panel, press LOCK button to lock the panel.

6）、Test Signal Board
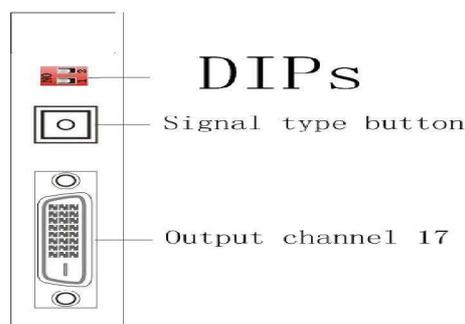
1. The output resolution is up to the two bits of DIPs on the test signal board.

DIPs	Bit 1	Bit 2	
	OFF	OFF	The output resolution is UGXA($1600 \times 1200 \times 60Hz$).
	OFF	ON	The output resolution is SXGA($1280 \times 1024 \times 60Hz$).
	ON	OFF	The output resolution is $1280 \times 960 \times 60Hz$.
	ON	ON	The output resolution is $1152 \times 864 \times 75Hz$.

2. Signal type Button: There are four kinds of signal saved in the test signal board, namely color vertical bar, white-black vertical bar, chessboard-grid and white-black vertical line. Press the button you can choose the signal you need.

3. Output channel 17 has the same function as the former 16 output channels.

Example 6: Set output channel 17 to be UXGA and color vertical bar.

a) Unlock the panel if the panel locked.

b) Press the I/O button and the LED displays the I/O menu. Set both the output channel and the input channel to be 17 with the I/O button and the ENTER button.

c) Press the I/O button or the ENTER button will tie output channel T1 to input channel T1.

d) Set the DIPs to be Bit 1 OFF and Bit 2 OFF.

e) Press the Signal type Button to set the signal to be color vertical bar.

f) IF no other operation on panel, press LOCK button to lock the panel.

Example 7: Set output channel 3 to be SXGA and chessboard-grid.

a) Unlock the panel if the panel locked.

b) Press the I/O button and the LED displays the I/O menu. Set the output channel to be 3 and the input channel to be T1 with the I/O button and the ENTER button.

c) Press the I/O button or the ENTER button will tie output channel 3 to input channel T1.

d) Set the DIPs to be Bit 1 OFF and Bit 2 OFF(Resolution: $1280 \times 1024 \times 60Hz$).

e）Press the Signal type Button to set the signal to be chessboard-grid.

f）IF no other operations on panel, press LOCK button to lock the panel.

7）、Other Function

If the panel locked, the device will have a bell warning when press the MENU button, or if the panel unlocked, the LED will display the MENU menu as the following figure 14 when press the MENU button.
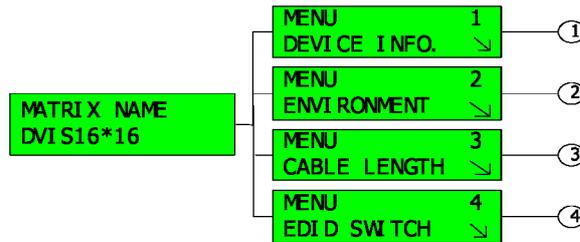
Figure 14:Menu menu

①： Check device information about input signal and output load.

②： Check device information about temperature and voltage.

③： Set cable length of input channel.

④： Copy output channel EDID to input channel.

Example 8: Check Device Input Channel Signal

To the following submenu, the cursor is at ①.
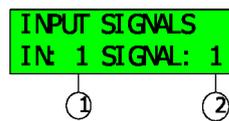
①： Input channel number

②： Signal symbol: if ② displays "1", the corresponding input channel has active signal, or no signal.

You can view each input channel signal symbol through trolling ENTER button

Example 9: Copy Output Channel 10 EDID to Input Channel 8

To the following submenu, the cursor is at ①.
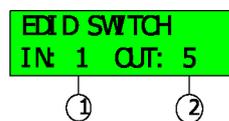
a) Unlock the panel if the panel locked (The LED displays as above figure).

b) Select input channel number: Select input channel 8 through MENU and ENTER button.

c) Select output channel number: Move cursor to ②, select output channel 10 and press the MENU or ENTER button then finish to Copy Output Channel 10 EDID to Input Channel 8.

d) IF no other operation on panel, press LOCK button to lock the panel.

Chapter 3: Remote control 1、

Description

DVIS-16*16 has two kinds of remote control methods, of which one is realized through RS232 serial communication port and another is by net port.

2、Control by RS-232

1)、Male 9-pin D connector

2——RXD（receive） 3——TXD（send）

5——GND（ground） others—NC
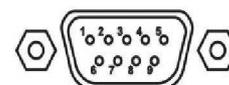
2)、Baud rate

9600bit/s，8bit，one stop bit, no parity bit

3)、Protocol format

DVIS-16*16 supports both the LIGUO hex protocol format (the A communication format) and the B communication format.

4)、Command

Format of receiving: 0xEB，Address, Command，Length of data，Data1，…，Data n.

Format of sending: 0xEB，Address，Command，Length of data，Data1，…，Data n，Redundancy.

0xEB	Frame starting point，binary system showing：11101011.
Address：	Code of the device, set before stepping off the product line，unchangeable， all the devices of the same series have the same address.
Command：	Show the commands by hexadecimal data.
Data length：	The number of the bytes received or sent, only including those of from Data 1 to Data 4
Redundancy：	Check whether it is right in the process of sending or receiving. It is counted by the sending part when sending data and by the device when send back the data. Method ：

Redundancy= Address + Command + Data length + Data 1+…+Data n

If Redundancy=EBH, then Redundancy=14H;

If Redundancy has carry, ignore the carry and get Low 8 bits.

For example, EBH, 90H, 01H, 01H, F3H, 90H

Redundancy = 90H + 01H + 01H + F3H = 185H

Ignore the carry, e.g. Redundancy=85H.

3、Control by Network

1）、Protocol

DVIS-16*16 supports the network control based on TCP/IP protocol, RJ-45 port offers physical connect between the equipment and net. Actually, the equipment has a default IP address that is 192.168.0.104 and the MAC address is labeled at the back of equipment. There are two indicator lights reflect the net connecting state. The closer light shows the power is on or not. The steady shining indicator light shows power on. The blinking light shows the net is working, the going out light means the power does not connect. Another indicator light shining means connection of the net port is common; otherwise the light going out is abnormal.

2）、Set a new parameter of the IP address according to the existing one.

- Make sure the net ready to work and the device connected to net;
- According to the DOS direction, input the command: telnet 192.168.0.104 9999 (192.168.0.104 9999 is the current device's IP address) then the information shows as follows.

  The serial code of produce: XXXXXXX

  MAC address: XX：XX：XX：XX：XX：XX

  Vision number of Software: XX.X (XXXXXX)

  Press "Enter" to come into the mode of setting parameter.

- Press "Enter" button on keyboard to show the info as below

  Change setting: 0 server setting;

  1 serial interface setting;

  6 safety setting;

  7 resume default setting;

  8 quit without save;

9 quit and save

Choose step: ??

- Press 0 and then "Enter". Information as follows:

    IP address: <192>

- Input IP address and then "Enter". Information as follows:

    IP address of setting net gateway: <N>

- Press "Enter" and then showing as follows:

    The masking of subnet: digit of the inputted masking<0=default>

- Press "enter" and then showing as follows:

    Change the passport of telnet (N)

- Press "enter" then showing as follows:

    Change set: 0 server setting;

                     1 serial interface setting;

                     6 safety setting;

                     7 resume default setting;

                     8 quit without save;

                     9 quit and save

                     Choose step: ?

- Input 9 and press "Enter" to save and quit the operation.

- Input the command: ping **192.168.0.104,** if the above operation is successful, information is showed as follows:

Pinging 192.168.0.104 with 32 bytes of data:

Reply from 192.168.0.104: bytes=32 time<10ms TTL=64

Reply from 192.168.0.104: bytes=32 time<10ms TTL=64

Reply from 192.168.0.104: bytes=32 time<10ms TTL=64

Reply from 192.168.0.104: bytes=32 time<10ms TTL=64

Ping statistics for 192.168.0.104:

  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

  Minimum = 0ms, Maximum = 0ms, Average = 0ms

3)、Set a new parameter of IP address according to device's Mac address

- Record the Mac address at rear keyboard.

- According to DOS direction, Input the command: arp -s **192.168.0.123** XX-XX-XX-XX-XX-XX

  (**192.168.0.123** is temporary address; XX-XX-XX-XX-XX-XX is the MAC address of equipment) and press, "enter".

— Above command will act, if "Windows" OS has other MAC corresponding with IP address except itself in ARP list, otherwise showing wrong info. At that time, just ping any computers in the net. Input "arp –a" to check ARP list.

- Input "telnet **192.168.0.123** **1**" an then gets a wrong info soon.

- Input "telnet **192.168.0.123** 9999". After that set up and save a new IP address bases the mode of IP address setting in existence.

— Because of IP address is temporary, then the IP address will dismiss after turn off the equipment. So input command "telnet 192.168.0.123 9999" to save new IP address, otherwise after restart equipment, the IP address will dismiss.

4), Control device by net control command

If user need control equipment via net, then the equipment must connect to Internet, and DVIS-16*16 must be host computer, controlling equipment must be assistant computer. Before using command, controlling equipment need send connection request to DVIS-16*16 via TCP/IP protocol, and then build a net. After that, send commands to host computer, data are all binary system, communication command and protocol formats same as RS232 controlling format, the supporting commands are same as RS232's commands.

5), Control device by WEB mode

- Introduction of WEB control mode

DVIS-16*16 has a WEB server inside, this server supplies supervision function about working state data, such as device's inside temperature and power voltage, and control device's input and output via web. After set up a correct net control parameter (IP address), the device can be available

through HTTP.

● Control process

For example: control process is based on TCP/IP, OS is "Widows" professional, IE 6.0, JRE1.4.6 (JAVA Run Time Environment) inside.

● Make sure the device connects to Internet via "ping" command.

● Start up browser; input IP address, like http://192.168.0.104 and then the web will display that is inside the host computer.

4、Communication format A

1)、Format of Character

All data are showed by hexadecimal data.

2)、Explanation of character

The symbol "," and "." just stands for list separator without any meanings, and wouldn't be sent in the process of sending data. The data with "under line" or "black type" are key words.

3)、Data length

The data must be among 0x01~0xFF excluding 0xEB, represent the quality of data 1~ data n and are accordant with the subsequent data.

4)、0x00

It stands for any number from 0x00 to 0xFF excluding 0xEB.

5)、Output data 1~N

It symbolized codes of output ports; the range is from 0x00 to the maximum number that the device supports.

6)、Input data 1~N

It symbolized codes of input ports; the range is from 0x00 to the maximum input number that the device supports. 00x0 means input No.1; 0x01 means input No.2. Please caution that the maximum input port number's code plus ONE symbolized closing this port. For example, the device supports eight input ports, then 0x07 symbolizes No.8 port, 0x08 symbolizes close.

7)、Pre-select input through long-distance control

Similar with input by keyboard

8)、Address

0x90

9)、Response

a) The equipment correctly receives and executes the command. Then execute the command and response as follows.

0xeb, Address, Command, 0x01, 0xfa, Redundancy.

b) The equipment receives the address correctly but data out of the range. Then doesn't execute the command and response as follows.

0xeb, Address, Command, 0x01, 0xf2, Redundancy.

c) The equipment receives correctly but is controlled through keyboard. Then doesn't execute the command and response as follows.

0xeb, Address, Command, 0x01, 0xf3, Redundancy.

d) The equipment receives the address correctly but data length wrongly. Then doesn't execute the command and response as follows.

0xeb, Address, Command, 0x01, 0xf7, Redundancy.

e) The equipment receives the address correctly but the command is no support. Then doesn't execute the command and response as follows.

0xeb, Address, Command, 0x01, 0xf1, Redundancy.

f) The equipment receives the address wrongly. No response.

5、 Detailed Commands

1)、 Command 0x00(two functions)

Function 1	Get the equipment address and software version
Format	0xeb, 0x00, 0x00, 0x01, 0x01
Response	0xeb, Address, 0x00, 0x02, Version, 0xfa, Redundancy

For example： Get the equipment address and software version

Commands: 0xeb, 0x00, 0x00, 0x01, 0x01

Response: 0xeb, 0x90, 0x00, 0x02, 0x10, 0xfa, Redundancy

Function 2	Get the information of the equipment's type
Format	0xeb, 0x90, 0x00, 0x01, 0x49
Response	0xeb, 0x90, 0x00, 0x03, Input Signal Type， Maximal Input Channel Quantity， Maximal Output Channel Quantity
Note 1: The value of Input Signal Type is 0x80,it means DVI type	

For example： Get the information of equipment's type

Commands: 0xeb, 0x90, 0x00, 0x01, 0x49

Response: 0xeb, 0x90, 0x00, 0x03, 0x80, 0x10, 0x10, Redundancy

2)、 Command 0x01

Function	Tie the input channel to output channel
Format	0xeb, 0x90, 0x01, N, Input Number of output channel 1…Input Number of output channel N.
Response	0xeb, 0x90, 0x01, 0x01, 0xfa, Redundancy
Note 1: The range of N is from 0x01 to 0x11.	
Note 2: The range of Input Number is from 0x00 to 0x11. 0 means INPUT 1, 1 means INPUT 2, 0x11 means closing output.	

For example 10： Tie the input channel 8 to the output channel 1, the input channel 17 to the output channel 2 and close the output channel 3.

Commands: 0xeb, 0x90, 0x01, 0x03, 0x07, 0x10, 0x11

Response: 0xeb, 0x90, 0x01, 0x01, 0xfa, Redundancy

3)、Command 0x02

Function	Tie the appointed output channels to the appointed input channels.
Format	0xeb，0x90, 0x02, N, <u>Output Number 1,Input Number 1,…,Output Number N, Input Number N</u>
Response	0xeb, 0x90, 0x02, 0x01, 0xfa, Redundancy
Note 1: The range of N is the even from 0x02 t0 0x22. Note 2: The range of <u>Output Number</u> is from 0x00 to 0x10. 0x10 stands for the test output.Note 3: The range of <u>Input Number</u> is from 0x00 to 0x11. 0x11 is used to close the output. 0x10 is used to tie the output to the internal test signal.	

For example 1： Tie the input channel from 1 to 8 to output channel from 1 to 8 respectively.

Commands: 0xeb, 0x90, 0x02, 0x10, 0x<u>00, 0x00, 0x01, 0x01, 0x02, 0x02, 0x03, 0x03, 0x04, 0x04, 0x05, 0x05, 0x06, 0x06, 0x07, 0x07</u>

Response: 0xeb, 0x90, 0x02, 0x01, 0xfa, Redundancy

For example 2： Tie the input channel 2 to the output channel 8

Commands: 0xeb, 0x90, 0x02, 0x02, <u>0x07, 0x01</u>

Response: 0xeb, 0x90, 0x02, 0x01, 0xfa, Redundancy

4)、Command 0x03(three functions)

Function 1	Get the marks of signals at input channels
Format	0xeb, 0x90, 0x03, 0x01, 0x00
Response	0xeb, 0x90, 0x03, 0x04,<u> Mark 1</u>, <u>Mark 2</u>, <u>Mark 3</u>, <u>Mark 4</u>,Redundancy
Note :<u> Mark 1</u> expresses in binary as this mode " 0，0，0，0，bit3，bit2，bit1，bit0 ", bit0 to bit3 means the marks of signals at input channel 1 to 4 respectively，if the bit value is 1，then the corresponding input channel has signal, or if the bit value is 0, the corresponding input channel has not signal. So to the <u>Mark 2</u>，its value expresses the signals of the input channel 5 to 8. So to the <u>Mark 3</u>，its value expresses the signals of the input channel 9 to 12. So to the <u>Mark 4</u>，its value expresses the signals of the input channel 13 to 16.	

For example 1： Get the marks of signals at input channels

Commands: 0xeb, 0x90, 0x03, 0x01, 0x00

Response: 0xeb, 0x90, 0x03, 0x04, <u>0x08</u>, <u>0x04</u>, <u>0x00</u>, <u>0x00</u>, Redundancy

Explanation: At this time, the Mark 1 is 08H and the Mark 2 is 04, 0x08 expressed in

22

binary is "0，0，0，0，1，0，0，0 "， so the input channel 4 has signal and the input channel 1 to 3 have not signals; 0x04 expressed in binary is "0，0，0，0，0，1，0，0"，so the input channel 7 has signal and the input channel 5,6 and 8 have not signal, other input channels have no signal.

Function 2	Get the Preset Input Channel
Format	0xeb, 0x90, 0x03, 0x01, 0x01
Response	0xeb, 0x90, 0x03, 0x01, Preset Input Channel，Redundancy
Note: The range of the Preset Input Channel is as same as the Maximal Input Channel	

For example：   Get the Preset Input Channel

Commands: 0xeb, 0x90, 0x03, 0x01, 0x01

Response: 0xeb, 0x90, 0x03, 0x01, 0x04, Redundancy

Explanation: The Preset Input Channel is input channel 5.

Function 3	Get the mark of the load at the output channels
Format	0xeb, 0x90, 0x03, 0x01, 0x04
Response	0xeb, 0x90, 0x03, 0x05, Mark 1, Mark 2, Mark 3, Mark 4, Mark 5,Redundancy
Note : Mark 1 expresses in binary as this mode " 0，0，0，0，bit3，bit2，bit1，bit0 ", bit0 to bit3 means the marks of Load at output channel 1 to 4 respectively，if the bit value is 1，then the corresponding output channel has load, or if the bit value is 0, the corresponding output channel has not load. So to the Mark 2，its value expresses the signals of the output channel 5 to 8. So to the Mark 3，its value expresses the signals of the output channel 9 to 12. So to the Mark 4，its value expresses the signals of the output channel 13 to 16. So to the Mark 5，its value expresses the signal of the output channel 17.	

For example：   Get the mark of the load at the output channel

Commands: 0xeb, 0x90, 0x03, 0x01, 0x04

Response: 0xeb, 0x90, 0x03, 0x05, 0x05, 0x01, 0x00, 0x00, 0x00, 0x9b

Explanation: At this time, the Mark 1 is 0x05 and the Mark 2 is 0x01, 0x05 expressed in binary is "0，0，0，0，0，1，0，1 "， so the output channels 1 and 3 have loads and the output channels 2 and 4 have not loads; Mark 2 0x01 expressed in binary is "0，0，0，0，0，0，0，1"，so the output channel 5 has load. Other output channels have no loads.

5)、Command 0x04(three functions)

Function 1	Get the tied status of an appointed input channel
Format	0xeb, 0x90, 0x04, 0x02, 0x01, <u>Input Number</u>
Response	0xeb, 0x90, 0x04, N, <u>Output Number 1</u>, <u>…</u>, <u>Output Number N</u>, Redundancy
Note 1: The range of <u>Input Number</u> is as same as the note 2 of command 0x01	
Note 2: The range of <u>Output Number</u> is as same as the note 2 of command 0x02	

For example： Get the tied status of an appointed input channel

Commands: 0xeb, 0x90, 0x04, 0x02, 0x01, <u>0x04</u>

Response: 0xeb, 0x90, 0x04, 0x02, <u>0x01</u>, <u>0x05</u>, Redundancy

Explanation: The input channel 5 has been tied to output channels 2 and 6.

Function 2	Get the tied status of an appointed output channel
Format	0xeb, 0x90, 0x04, 0x02, 0x02, <u>Output Number</u>
Response	0xeb, 0x90, 0x04, 0x01, <u>Input Number</u>, Redundancy
Note 1: The range of <u>Output Number</u> is as same as the note 2 of command 0x02.	
Note 2: The range of <u>Input Number</u> is as same as the note 2 of command 0x01.	

For example： Get the tied status of an appointed output channel

Commands: 0xeb, 0x90, 0x04, 0x02, 0x02, <u>0x04</u>

Response: 0xeb, 0x90, 0x04, 0x01, <u>0x07</u>, Redundancy

Explanation: The output channel 5 has been tied to input channel 8.

Function 3	Get the tied status of all output channels
Format	0xeb, 0x90, 0x04, 0x01, <u>any data except 0xeb</u>
Response	0xeb, 0x90, 0x04, 0x08, <u>Input Number of output channel1</u>, <u>…</u>, <u>Input Number of output channel 16</u>, Redundancy
Note: The range of <u>Input Number</u> is as same as the Note 2 of command 0x01	

For example： Get the tied status of all output channels

Commands: 0xeb, 0x90, 0x04, 0x01, <u>0x01</u>

Response: 0xeb, 0x90, 0x04, 0x11, <u>0x00</u>, <u>0x01</u>, <u>0x02</u>, <u>0x03</u>, <u>0x04</u>, <u>0x05</u>, <u>0x06</u>, <u>0x07</u>, <u>0x08</u>, <u>0x09</u>, <u>0x0a</u>, <u>0x0b</u>, <u>0x0c</u>, <u>0x0d</u>, <u>0x0e</u>, <u>0x0f</u>, <u>0x10</u>, Redundancy

Explanation: The output channel from 1 to 17 has been tied to input channel from 1 to 17 respectively.

6)、Command 0x05

Function	Set the Preset Input Channel
Format	0xeb, 0x90, 0x05, 0x01, <u>Input Number</u>
Response	0xeb, 0x90, 0x05, 0x01, 0xfa, Redundancy
Note: The range of <u>Input Number</u> is as same as the Note 2 of command 0x01	

For example： Set the Preset Input Channel

Commands: 0xeb, 0x90, 0x05, 0x01, <u>0x02</u>

Response: 0xeb, 0x90, 0x05, 0x01, 0xfa, Redundancy

Explanation: The Preset Input Channel is set up to input channel 3.

7)、Command 0x06

Function	Tie an appointed output channel to the Preset Input Channel.
Format	0xeb, 0x90, 0x06, 0x01, <u>Output Number</u>
Response	0xeb, 0x90, 0x06, 0x01, 0xfa, Redundancy
Note: The range of <u>Output Number</u> is as same as the Note 2 of command 0x02	

For example： Tie an appointed output channel to the Preset Input Channel

Commands: 0xeb, 0x90, 0x06, 0x01, <u>0x04</u>

Response: 0xeb, 0x90, 0x06, 0x01, 0xfa, Redundancy

Explanation: The output channel 5 has been tied to the Preset Input Channel.

8)、Command 0x0c

Function 1	Recode Macro
Format	0xeb, 0x90, 0x0c, N, 0x00, <u>Macro Number</u>, <u>Output Number 0</u>，<u>Input Number 0</u>，…，<u>Output Number N</u>，<u>Input Number N</u>， Redundancy
Response	0xeb, 0x90, 0x0c, 0x01, 0xfa, 0x0f
Note 1: The range of N is the even from 0x02 to 0x22	

For example： Recode the Macro 1

Commands: 0xeb, 0x90, 0x0c, 0x06, 0x00, <u>0x00</u>, <u>0x01, 0x01</u>, <u>0x02, 0x02,</u>

Response: 0xeb, 0x90, 0x0c, 0x01, 0xfa, Redundancy

Explanation: In this Macro, the Macro number is 1, the output channel 2 、3 is tied to the input channel 2、3 respectively and other output channels are ignored

Function 2	View Macro
Format	0xeb, 0x90, 0x0c, 0x02, 0x02, Macro Number
Response	0xeb, 0x90, 0x0c, N, Macro Number，Output Number 0，Input Number 0，…，Output Number M，Input Number M， Redundancy
Note 1: The range of Macro Number from 0x00 to 0x10 Note 2: The range of N is an odd from 0x01 to 0x21	

For example： View Macro Number 1

Commands: 0xeb, 0x90, 0x0c, 0x02, 0x02, 0x00

Response: 0xeb, 0x90, 0x0c, 0x05, 0x00, 0x01, 0x01, 0x02, 0x02, Redundancy

Explanation: In the Macro number 1: the output channel 2 、3 is tied to the input channel 2、3 respectively and other output channels are ignored.

Function 3	Recall Macro.
Format	0xeb, 0x90, 0x0c, 0x02, 0x01, Macro Number
Response	0xeb, 0x90, 0x0c, 0x01, 0xfa, 0x0f
Note: The range of Macro Number is from 0x00 to 0x10.	

For example： Recall Macro Number 1

Commands: 0xeb, 0x90, 0x0c, 0x02, 0x01, 0x00

Response: 0xeb, 0x90, 0x0c, 0x01, 0xfa, Redundancy

9)、Command 0xfd(three functions)

Function 1	View the status of switching EDID
Format	0xeb, 0x90, 0xfd, 0x02, 0x02, 0x00
Response	0xeb, 0x90, 0xfd, 0x10, the EDID mark of the input channel 1,……, the EDID mark of the input channel 16, Redundancy
Note	0x10 is the num of input channels. If the EDID mark of the input channel 1 is 0x01, it means the EDID of the output channel 2 is copied to the input channel 1, and so to the mark of other input channels. If the mark is 0x11, it means the default EDID is copied to the input.

Function 2	Copy the EDID of Load at the appointed output channels to the appointed input channels
Format	0xeb, 0x90, 0xfd, N, 0x01, <u>the EDID source of Input channel 1… the EDID source of Input channel N</u>
Response	0xeb, 0x90, 0xfd, 0x01, 0xfa, Redundancy
Note 1: The range of N is from 0x01 to 0x10 Note 2: The range of the EDID source is from 0x00 to 0x0f, they stand for output channel from 1 to 16 respectively. Note 3: If there is no load at the appointed output channel, then the default EDID will be used	

For example： Copy the EDID of output channels from 4 to 8 to the input channels from 1 to 5

Commands: 0xeb, 0x90, 0xfd, 0x06, 0x01, 0x03, 0x04, 0x05, 0x06, 0x07

Function 3	Copy the default EDID to the appointed input channels
Format	0xeb, 0x90, 0xfd, 0x02, 0x02, Input Number
Response	0xeb, 0x90, 0xfd, 0x01, 0xfa, Redundancy

For example： Copy the default EDID to the input channel 5

Commands: 0xeb, 0x90, 0xfd, 0x02, 0x02, Redundancy

10)、Command 0xfa(nine functions)

Function 1	Get the signal marks of all input channels
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, 0x00
Response	0xeb, 0x90, 0xfa, 0x11, <u>Mark 1</u>，…，<u>Mark 16</u>， Redundancy
Note: The value of <u>Mark 1</u> to <u>Mark 16</u> is 0x00 or 0x01; if the mark value is 0x01，then the corresponding input channel has signal, or if the mark value is 0x00, the corresponding input channel has not signal.	

For example： Get the signal marks of all input channels

Commands: 0xeb, 0x90, 0xfa, 0x02, 0x00, 0x00

Response: 0xeb, 0x90, 0xfa, 0x11, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x01</u>, <u>0x01</u>, <u>0x01</u>, <u>0x01</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, Redundancy

Explanation: The input channels from 5 to 8 have signals, and other input channels have no

signals.

Function 2	Get the load marks of all output channels
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, 0x01
Response	0xeb, 0x90, 0xfa, 0x11, <u>Mark of output channel1</u>，…，<u>Mark of output channel 17</u>， Redundancy
Note: The value of marks from 1 to 17 is 0x00 or 0x01; if the mark value is 0x01，then the corresponding output channel has load, or if the mark value is 0x00, the corresponding output channel has not load.	

For example：   Get the load marks of all output channels

Commands: 0xeb, 0x90, 0xfa, 0x02, 0x00, 0x01

Response: 0xeb, 0x90, 0xfa, 0x11, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x01</u>, <u>0x01</u>, <u>0x01</u>, <u>0x01</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, <u>0x00</u>, Redundancy

Explanation: The output channels 5 to 8 have loads; other output channels have no loads.

Function 3	Get the Temperature Value of all sub boards
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, 0x02
Response	0xeb, 0x90, 0xfa, 0x11, Temperature Value of Control Board ，Temperature Value of Input Board 1，…，Temperature Value of Input Board 8，Temperature Value of Output Board 1，…，Temperature Value of Output Board 8 ，Redundancy
Note 1: Actual temperature =(Temperature Value)-20 For example：If the Temperature Value is 0x38, then the actual temperature is 36℃ (0x38-20=56-20=36). Note 2: if the Temperature Value is zero，then the corresponding sub board or the sub board temperature sensor is not exit.	

For example：   Get the information of sub boards temperature

Commands: 0xeb, 0x90, 0xfa, 0x02, 0x00, 0x02

Response: 0xeb, 0x90, 0xfa, 0x11, 0x38, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, Redundancy

Explanation: The temperature of Control Board is 36℃. Other boards are not exit.

Function 4	Get the Voltage value of the control boards.
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, <u>0x03</u>
Response	0xeb, 0x90, 0xfa, 0x05, 0x<u>00, Data 1</u>(Voltage value)，…，<u>Data 4</u>(Voltage value)， Redundancy

Note 1: <u>0x03</u>means this operation is to check the control board voltage.

Note 2: <u>Data 1</u> to <u>Data 4</u> value stand for the temperature on different parts of the control board. The corresponding relation is as follows:

Voltage NO.	Normal voltage.	Voltage step
1	+2.5V	6.51mV
2	+2.5V	5.86mV
3	+5.0V	13.02mV
4	+12.0V	31.25Mv

The actual temperature=(<u>Data n</u>)× 4 × corresponding voltage step.

For example

If <u>Data 0</u> value is 0x5F, then the actual temperature is 0x5F×4×6.51=2473.8mV，namely 2.47V.

If <u>Data 3</u> value is 0x61, then the actual temperature is 0x61×4×13.02=5051.8mV，namely 5.05V.

For example： Get the Voltage value of the control boards

Commands: 0xeb, 0x90, 0xfa, 0x02, 0x00, <u>0x03</u>

Response: 0xeb, 0x90, 0xfa, 0x05, <u>0x00</u>, <u>0x5f</u>, <u>0x6b</u>, <u>0x61</u>, <u>0x6c</u>, Redundancy

Explanation: The corresponding voltage is 2.47V、2.5V、5.0V、13.5V

Function 5	Get the working status
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, 0x04
Response	0xeb, 0x90, 0xfa, 0x03, <u>Mark initialization</u> ，<u>Baud Value of serial port</u>，<u>Type of equipment</u>， Redundancy

Note 1: <u>The range of mark initialization is from 0x00 to 0x02,</u> If the mark value is 0x00，then the <u>equipment</u> has not been initialized; If the mark value is 0x01, then the <u>equipment</u> has been initialized, but the module is still without power: If the mark value is 0x02, then the <u>equipment</u> already power on and work well.

Note 2: The Baud Value of serial port is fixed 0x00, it stands for 9600bit/s，8bit，1 stop bit, no parity.

Note 4: The <u>type of equipment</u> value is 0x80, and it stands for DVI type.

For example： Get the working status

Commands: 0xeb, 0x90, 0xfa, 0x02, 0x00, 0x04

Response: 0xeb, 0x90, 0xfa, 0x03, <u>0x02</u>, <u>0x00</u>, <u>0x80</u>, Redundancy

Explanation: The equipment is in normal working state，the serial communication baud rate is 9600 and the device signal type is DVI .

Function 6	Reset the equipment.
Format	0xeb, 0x90, 0xfa, 0x02, <u>0xaa</u>, <u>0x06</u>
Response	0xeb, 0x90, 0xfa, 0x01, 0xfa, 0x85

For example： Reset the equipment.

Commands: 0xeb, 0x90, 0xfa, 0x02, 0xaa, 0x06

Response: 0xeb, 0x90, 0xfa, 0x01, 0xfa, 0x85

Function 7	Set the length of inputs cable.
Format	0xeb, 0x90, 0xfa, 0x04, 0x00, 0x0b, <u>the input channel</u>, <u>the Value of the length</u>
Response	0xeb, 0x90, 0xfa, 0x01, 0xfa, 0x85
Note: The Value of the length is from 0x00 to 0x0f. If there is no input board, it backs F2.	

Function 8	View the length of inputs cable
Format	0xeb, 0x90, 0xfa, 0x02, 0x00, <u>0x0c</u>
Response	0xeb, 0x90, 0xfa, 0x12, 0x00, 0x0c, <u>the length of the input channel 1 cable,······, the length of the input channel 16 cable,</u> Redundancy

Function 9	Switch the communication format between A and B
Format	0xeb, 0x90, 0xfa, 0x04, <u>Port num</u>, <u>the num of the format</u>, <u>0xaa</u>, <u>0x55</u>
Response	NO
Note: The RS-232 Port is 0x03, and the Network Port is 0x04. The Format Num: 0x00　A, 0x01　B	

6、Communication Format B

1)、Description

Both the sent and back-received data are ASCII characters.

In order to explain conveniently, some special ASCII characters or character strings are expressed as following:

↵ = CR/LF， "ENTER" First and New line later character.

← = CR， "ENTER" character only.

• = Space，Space character

[ESC] = ESC，Code-change character

[X] = Character 0 to 9.

[X3] = Input channel number（range form 0 to 8，0 means to shut off the channel）

2)、ASCII Character Table

Char.	ASCII Val. DEC	ASCII Val. HEX	Char.	ASCII Val. DEC	ASCII Val. HEX	Char.	ASCII Val. DEC	ASCII Val. HEX	Char.	ASCII Val. DEC	ASCII Val. HEX	Char.	ASCII Val. DEC	ASCII Val. HEX
Esc	27	1B	1	49	31	E	69	45	Y	89	59	m	109	6D
CR	13	0D	2	50	32	F	70	46	Z	90	5A	n	110	6E
LF	10	0A	3	51	33	G	71	47	[	91	5B	o	111	6F
Space	32	20	4	52	34	H	72	48	\	92	5C	p	112	70
!	33	21	5	53	35	I	73	49	]	93	5D	q	113	71
"	34	22	6	54	36	J	74	4A	^	94	5E	r	114	72
#	35	23	7	55	37	K	75	4B	_	95	5F	s	115	73
$	36	24	8	56	38	L	76	4C	`	96	60	t	116	74
%	37	25	9	57	39	M	77	4D	a	97	61	u	117	75
&	38	26	:	58	3A	N	78	4E	b	98	62	v	118	76
'	39	27	;	59	3B	O	79	4F	c	99	63	w	119	77
(	40	28	<	60	3C	P	80	50	d	100	64	x	120	78
)	41	29	=	61	3D	Q	81	51	e	101	65	y	121	79
*	42	2A	>	62	3E	R	82	52	f	102	66	z	122	7A
+	43	2B	?	63	3F	S	83	53	g	103	67	{	123	7B
,	44	2C	@	64	40	T	84	54	h	104	68			124	7C
-	45	2D	A	65	41	U	85	55	i	105	69	}	125	7D
.	46	2E	B	66	42	V	86	56	j	106	6A	~	126	7E
/	47	2F	C	67	43	W	87	57	k	107	6B	Del	127	7F
0	48	30	D	68	44	X	88	58	l	108	6C			

3)、Error Code

Error Code	Explanation
E01↵	Not valid input channel number（out of the input channel number range）
E05↵	No Communication Allowable

E10↵	Not valid command
E14↵	Not exist command
E22↵	Device is busy

4)、Detailed Commands

Tie single input channel to single output channel

Function	Tie input channel to output channel
Format	[X3]*[X2] &
Response	OUT[X2] • IN[X3] • DVI↵

For example：Tie input channel 1 to output channel 3

Commands sent by PC: 1*3&

Response by the device: Out03 • In01 • DVI↵

Tie multiply input channels to multiply output channels

Function	Tie multiply input channels to multiply output channels
Format	[ESC] Q [X3]*[X2]! ··· [X3]*[X2]! ←
Response	Out • Multi • In • Multi • All↵

For example：Tie the output channels 4,5,7 to the input channels 3,3,6 respectively

Commands sent by PC: [ESC]Q3*4&3*5&6*7&←

Response by the device: Out • Multi • In • Multi • All↵

Tie all output channels to the appointed input

Function	Tie all output channels to the appointed input
Format	[X3]! Or [X3]&
Response	Out • Multi • In • [X3] • All↵ or Out • Multi • In • [X3] • DVI↵

For example：Tie all output channels to the appointed input channel 5

Commands sent by PC: 5&

Response by the device: Out • Multi • In • 05 • DVI↵

Macro command

Function 1	Set Macro
Format	M[X5] • [X3]*[X2] • ...[X3]*[X2] • E
Response	Sma[X5]↵

For example： Set Macro 6

Macro 6: tie the input channels 16,15,14,13,12,11,10 to the output channels

1,2,3,4,5,6,7 respectively

Commands sent by PC: M6 • 16*1 • 15*2 • 14*3 • 13*4 • 12*5 • 11*6 • 10*7 • E

Response by the device: Sma06↵

Function 2	Load Macro
Format	M[X5]! Or M[X5]&
Response	Rma[X5] • All ↵ or Rma[X5] • DVI↵

For example：Load Macro 2

Commands sent by PC: M2!

Response by the device: Rma02 • All↵

Function 3	View Macro
Format	V[X5]； or v[X5]；
Response	M[X5] • [X3]*[X2] • ...[X3]*[X2] • E

For example：View Macro 5

Commands sent by PC: V5；

Response by the device: M05 • 01*01 • 02*02 • 03*03 • 04*04 • 05*05 • 06*06 • E

Response means the output channels 1,2,3,4,5,6 ties to the input channels 1,2,3,4,5,6 respectively.

If the response is M15 E, it means the Macro is not existed.

View the switch status of single output channel

Function	View the status of single output channel
Format	V[X2]& or v[X2]&
Response	Out[X2] • In[X3] • DVI↵

For example: View the switch status of the output channel 7

Commands sent by PC: V7&

Response by the device: Out07 • In02 • DVI↵

Explanation: The output channel 7 is tied to the input channel 2.

Get the software version.

Function	Get the software version.
Format	Q or q
Response	Ver[X].[X]↵
Note：”[X].[X]” stands for software version。	

For example ：Get the software version.

Commands sent by PC: Q

Response by the device: Ver1.0↵

Explanation：The software version is 1.0.

Get the Voltage value of the control boards.

Function	Get the Voltage value of the control boards.
Format	[X4]*2S
Response	Xf · Xf · Xf · Xf · Vol↵

Xf stands for the temperature on different parts of the control board. The corresponding relation is as follows:

Voltage NO.	Normal voltage.	Voltage step
1	+2.5V	6.51mV
2	+2.5V	5.86mV
3	+5.0V	13.02mV
4	+12.0V	31.25Mv

The actual temperature=(Data n)× 4 × corresponding voltage step.

For example

If Xf value is 0x5F, then the actual temperature is 0x5F×4×6.51=2473.8mV，namely 2.47V.

For example ：Get the Voltage value of the control boards.

Commands sent by PC: 1*2S

Response by the device: 96 · 82 · 97 · 102 · Vol↵

Explanation: the actual temperature of respective boards are 2.5V、1.9V、5.05V、12.75V。

Get the signal mark of input channels

Function	Get the signal mark of input channels
Format	[X4]*03S
Response	Xf · Xf · … · Xf · Xf · Sig↵

If Xf is 0, it means no signal. If Xf is 1, it means there is signal

For example ：Get the signal mark of input channels

Commands sent by PC: 1*3S

Response by the device: 00 ·00 ·01 ·00 ·00 ·01 ·01 ·00 ·00 ·00 ·00 ·00 ·00 ·00 ·00 ·00 ·Sig↵

Explanation: The input channels 3,6 and 7 have signals.

Get the load mark of output channels

Function	Get the load mark of output channels
Format	[X4]*04S
Response	Xf • Xf • … • Xf • Xf • Load↵
If Xf is 0, it means no load. If Xf is 1, it means there is load	

For example ： Get the load mark of output channels

Commands sent by PC: 1*4S

Response by the device: 00 • 01 • 01 • 01 • 00 • 00 • 00 • 00 • Load↵

Explanation: The output channels 2,3 and 4 have loads.

Get device temperature

Function	Get device temperature
Format	[X4]*05S
Response	[X4]Tem[X31]↵
The actual temperature: [X31]-20	

For example ： Get device temperature

Commands sent by PC: 1*5S

Response by the device: 1Tem51↵

Explanation: The actual temperature is 31.

Copy the EDID of outputs to inputs

Function	Copy the EDID of the output channel to the input channel
Format	[X1]*[X2]~
Response	[X1]*[X2] • EDID↵

For example ： Copy the EDID of the output channel 3 to the input channel 4

Commands sent by PC: 4*3~

Response by the device: 4*3 • EDID↵

Copy the default EDID to inputs

Function	Copy the default EDID to the input channel
Format	[X1]*15S
Response	Default↵

For example: Copy the default EDID to the input channel 4

Commands sent by PC: 4*15S

Response by the device: Default↵

Reset Command

Function	Reset
Format	[ESC]zXXX
Response	ZapXXX↵

Chapter 4:Maintenance

1、Replace the fuse

There is a spare fuse hidden in the power socket. Pull out the power cord and open the place showed on the picture, then pull out the fuse socket and put in a new fuse.
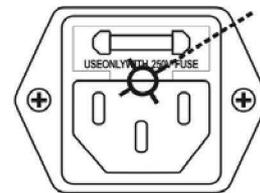
⚠ —— Warning:Please cut off the power supply before replacing the new fuse.

2、Common Troubles

Troubles	Reasons	Resolve
Power LED is not on	Fuse is melted down.	Replace the fuse.
	Power cord is short circuit or plug touches badly.	Replace the power cord or reconnect power plug.
No signals input and IN LED on	The cable of input is short circuit or completely cut off.	Check or change the cable of input.
	The prior equipment doesn't output signals.	Make the equipments have signals by operating them.
	The prior equipment is PC, which has ever been pulled out.	Change the PC's original resolution and then restore it after PC beginning to output signals.
No signals output and IN LED is on.	The cable of output touches badly or completely cut off.	Check the cable of output or change it.
	The device is in the status of prohibiting output	Permitting output by operating the device.
There is a signal output with ugly color and EDID LED blinks.	The PC has ever been changed or EDID data use the default EDID.	Save the PC's EDID data and then restart the whole system.
Under the high resolution, no signals output, or output is not normal.	Performance of the DVI cable is not good.	Please use high performance DVI cable
	DVI cable is over 5 meters.	Less than 5 meters.

Quality Guaranty

The device owns one-year guaranty with the exception of man-made damages and if over one year material cost and repair fee are charged. Please contact our management department in case of quality fault and device flaw. If technology questions appear, please inform us by telephone, email, or fill out the return form at http://www.kvmswitchtech.com/shipping-and-rma-r231.htm

TEL: 1-866-865-7737;

Intl: 1-216-378-7866

EMAIL: sales@kvmswitchtech.com

⚠ —— Damages resulted from the wrong operation; force majeure and any other uncertain factors are not guaranteed.

📝 —— Send the deficient device with fault descriptions in order for effective service. Damages and loss during the shipment are not guaranteed.

Packing List

Device	DMS-1616		
Power Cord	One	User's Manual	One
Certificate	One	Software	No
Other parts	No		
Note			